

Hybrid Polymer Latex Blends of Natural Rubber and Nanoparticle-Sized Acrylics



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Tuan

KELULUSAN PERMOHONAN PELANJUTAN TEMPOH PENYELIDIKAN KALI PERTAMA

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Dengan segala hormatnya, perkara di atas adalah dirujuk.

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ABSTRACT

Natural rubber (NR) latex is widely used in the manufacture of thin film barrier products such as gloves and condom. However, due to its low T_g , film casted from NR latex is soft and tacky, and needed to be strengthened to produce high performance products. Films of prevulcanized natural rubber latex (PVNR) blended with nano-sized copolymer of n-butyl acrylate/butyl methacrylate (BA/BMA) were prepared at three different ratios of acrylate copolymer: PVNR. The tensile strength and elongation at break of films prepared decreased with increasing ratios of acrylate copolymer:PVNR. FESEM images showed the occurrence of agglomeration of the acrylate copolymers with PVNR molecules. The degree of agglomeration of the blended molecules increased with percentages of copolymer added. The decrease in the tensile strength and elongation at break may due to the agglomeration of the blended molecules probably due to poor dispersion and/or destabilization of PVNR molecules.

Keywords: natural rubber latex, microemulsion polymerization, blends, nano-polyacrylate